

REMARKS

This communication is submitted in response to the Office Action of July 14, 2003.

Claims 1, 3, 5-22, 28-32, 35-39, 51-57 and 59-62 are pending in the subject application with claims 1, 28, 51 and 56 having been amended, claim 58 having been canceled and claims 59-62 having been added. Claims 25-27 and 40-50 were previously canceled. Claims 2, 4, 23, 24, 33 and 34 stand withdrawn from consideration by the Examiner.

Support for the amended claims and the new claims is found throughout the specification as originally filed such that the amended and new claims do not introduce any new matter.

Reconsideration of the subject application is respectfully requested in view of the foregoing amendments and the following remarks.

The objection to claim 58 is submitted to be moot in view of claim 58 having been cancelled.

The rejection of claims 1, 3, 5-6 and 17-21 as being anticipated by Hill, the rejection of claim 7-16, 28-32, 36-39 and 51-55 as being unpatentable over Hill, the rejection of claims 1, 22, 28 and 35 as being unpatentable over Grossman in view of Foster et al, and the rejection of claims 56-58 as being unpatentable over Sanford are all respectfully traversed for the following reasons.

Independent claim 1 recites "a window frame; a shattered window pane disposed in said window frame and having an exterior surface and an interior surface exposed by said window frame, said interior surface being opposite said exterior surface; and a

layer of unifying material adhesively bonded to at least one of said exterior surface or said interior surface, said layer of unifying material and said window pane bonded thereto forming an integral, cohesive mass in which said shattered window pane is united, said cohesive mass being removable from said window frame as one or more integral and unitary pieces." The Examiner interprets Hill as disclosing a layer of unifying material adhesively bonded to at least one of the exterior surface or the interior surface of a windshield and refers to lines 10-11 of the Abstract of Hill for the disclosure of this feature. However, the passage in the Abstract of Hill relied on by the Examiner for the teaching of a layer of unifying material adhesively bonded to at least one of the exterior surface or the interior surface of the windshield merely refers to a resin filler forced into a crack in the windshield. Elsewhere throughout the specification of Hill, the resin filler is disclosed as being forced into the crack (Col. 3, lines 63-64 and Col. 4, lines 3-4 and 7-9). There are absolutely no teachings or suggestions whatsoever by Hill of the resin filler being bonded to at least one of the exterior or interior surfaces of the windshield. Rather, the teachings of Hill are explicitly and literally limited to the resin filler being forced into the crack. In addition, there are no teachings or suggestions whatsoever by Hill of the resin filler being adhesively bonded to at least one of the exterior or interior surfaces of the windshield. The disclosure by Hill of a resin filler does not necessarily or inherently encompass the filler being adhesively bonded to the windshield. Hill has elected the term "filler" to describe the resin and, consistent with this term, the resin filler could be retained in the crack merely by the pressure of the resin filler filling the crack without any type of bonding to the windshield. It follows that Hill fails to teach or suggest any type of cohesion between the resin filler and the

windshield, and thusly fails to teach or suggest the resin filler and the windshield forming an integral, cohesive mass in which the cracked windshield is united. Having failed to disclose an integral, cohesive mass formed by the resin filler and the windshield, Hill also fails to disclose a cohesive mass that is removable from the frame of the windshield as one or more integral and unitary pieces. Accordingly, independent claim 1 cannot be anticipated by Hill and is submitted to be clearly patentable over Hill along with dependent claims 3 and 5-22.

Grossman discloses a mechanical fastening device comprising washers 5 and 10 clamped together along opposing sides of a window pane via a stem 1 extending through the washers 5 and 10 and a crack in the window pane. Felt facings 6 and 11 are interposed between the washers 5 and 10 and the window pane. The Examiner acknowledges that Grossman does not disclose either a layer of unifying material adhesively bonded to at least one of the exterior surface or the interior surface of the window pane or a unifying material and a window pane bonded thereto forming an integral, cohesive mass removable from the window frame as one or more integral and unitary pieces. The Examiner relies on Foster et al as rectifying the deficiencies of Grossman and interprets Foster et al as disclosing a layer of unifying material adhesively bonded to at least one of the exterior surface or the interior surface of a window pane to form an integral, cohesive mass removable from a window frame as one or more integral and unitary pieces. The Examiner's interpretation of Foster et al is submitted to be erroneous and the Examiner's modification of Grossman to incorporate the teachings of Foster et al is considered improper as explained below.

Foster et al relates to temporary protective coatings applied to undamaged sheet

glass during the manufacturing process to protect against scratching and does not relate to a layer of unifying material applied to a shattered window pane to form a cohesive mass in which the shattered window pane is united. Moreover, Foster et al does not disclose the protective coatings adhesively bonded to the sheet glass and actually teaches away from adhesively bonded coatings by pointing out the problems and disadvantages associated with adhesively backed films (Col. 1, lines 33-40). In addition to failing to disclose the protective coatings as being adhesively bonded to the glass, Foster et al provides no disclosure whatsoever as to the ability of the protective coatings to form an integral, cohesive mass with a shattered glass sheet. In particular, Foster et al fails to disclose, explicitly or inherently, the formation of an integral, cohesive mass formed by the protective coatings and a shattered glass sheet much less an integral, cohesive mass in which the shattered glass sheet is united. Since Foster et al relates to the protective coatings being applied temporarily during the manufacturing process, there is also no disclosure by Foster et al of an integral, cohesive mass removable from a window frame as one or more integral and unitary pieces. Foster et al also teaches away from the claimed invention by requiring that the glass sheet be heated above the boiling point of water (Col. 1, lines 51-65). The invention disclosed by Foster et al is thusly inapplicable, for practical reasons, to a window structure. The inapplicability of Foster et al to a window structure makes it improper to combine only isolated teachings of Foster et al with Grossman as the Examiner has done to reject claim 1. There is no support in either Grossman or Foster et al for modifying Grossman to replace the mechanical fasteners with the coatings of Foster et al, particularly since there is no disclosure whatsoever by Foster et al of the

coatings forming an integral, cohesive mass with a shattered or cracked window pane. The interpretation of Foster et al and the combination of Grossman and Foster et al as asserted by the Examiner can only be based on impermissible hindsight made possible with the teachings of the present invention. Accordingly, it is submitted that independent claim 1 is clearly patentable over Grossman in view of Foster et al and should be allowed along with dependent claims 3 and 5-22.

With respect to dependent claim 6, which recites the unifying material as "a polymeric material," there is no disclosure by Hill of the resin filler being a polymeric material. Furthermore, it does not necessarily and inherently follow from the teaching of a "resin" that the resin filler be a polymeric material. It is submitted, therefore, that the rejection of claim 6 as being anticipated by Hill is clearly improper and should be withdrawn. Accordingly, claim 6 is submitted to be clearly patentable over Hill for the additional limitation recited therein and should be allowed.

Dependent claims 7-10 recite specific polymeric materials which are not disclosed by Hill. As noted above in connection with claim 6, a "resin" by definition is not required to be a polymeric material such that the specific polymeric materials recited in claims 7-10 cannot be considered obvious over Hill. Accordingly, claims 7-10 are submitted to be patentable over Hill for the additional limitations recited therein as well as being allowable with independent claim 1.

Dependent claims 11-16 recite various polymeric films, and the resin filler disclosed by Hill as being pressure injected into a crack does not constitute a film. Accordingly, dependent claims 11-16 are submitted to be clearly patentable over Hill for the additional limitations recited therein as well as being allowable with independent

claim 1.

Dependent claim 17 recites the unifying material as "a cellulosic material," and the resin filler disclosed by Hill is not inherently or necessarily a cellulosic material. Accordingly, claim 17 cannot be anticipated by Hill and is submitted to be clearly patentable over Hill for the additional limitation recited therein as well as being allowable with independent claim 1.

Dependent claim 18 recites the layer of unifying material as curing to form the cohesive mass. There is absolutely no disclosure whatsoever by Hill of the resin filler curing to form a cohesive mass with the windshield and, as noted above, Hill fails to even disclose the resin filler as forming a cohesive mass with the windshield. The mere disclosure of a resin filler by Hill does not necessarily and inherently involve curing, and claim 18 cannot be anticipated by Hill. Accordingly, it is submitted that claim 18 is clearly patentable over Hill and should be allowed for the additional limitations recited therein as well as being allowable with claim 1.

Dependent claim 19 recites that the unifying material "seeps into said crack when said unifying material is applied in fluidic form and forms a structural bond at said crack when said unifying material cures." Hill does not disclose the resin filler as seeping into the crack but, rather, discloses the resin filler as being forced into the crack by pressure of the plunger 20 (Col. 3, lines 63-64). In addition, as discussed above, there are no teachings or suggestions whatsoever by Hill of the resin filler forming a structural bond at the crack since it is just as possible that the resin filler merely fills the crack by pressure of the resin filler within the crack without any structural bond with the windshield. Accordingly, claim 19 cannot be anticipated by Hill and is submitted to be

clearly patentable over Hill for the additional limitations recited therein as well as being allowable with claim 1.

Dependent claim 20 recites "at least one grasping member secured to said cohesive mass", and dependent claim 21 recites the at least one grasping member as including "a handle bonded to said layer of unifying material." The Examiner refers to the entire windshield repair apparatus 10 of Hill as a grasping member; however, Hill does not disclose any structure of the repair apparatus as a grasping member secured to a cohesive mass much less a handle bonded to the resin filler. In addition to failing to disclose any bond between the resin filler and the windshield, Hill fails to disclose any type of bond between the resin filler and any structural components of the repair apparatus. Accordingly, claims 20 and 21 cannot be anticipated by Hill and are submitted to be clearly patentable over Hill for the additional limitations recited therein, as well as being allowable with independent claim 1.

Dependent claim 22 recites the layer of unifying material as being "disposed over substantially the entirety of said at least one of said exterior surface or said interior surface." As pointed out above, Foster et al is limited to the application of a temporary protective coating to a glass sheet during the manufacturing process and bears no relation whatsoever to a unifying material disposed over at least one of the exterior surface or the interior surface of a shattered window pane exposed by a window frame. Grossman relates to mechanical fasteners disposed within cracks of a window pane, and no teachings or suggestions whatsoever are provided by either Grossman or Foster et al with respect to a layer of unifying material disposed over substantially the entirety of at least one of the exterior surface or the interior surface of a shattered window pane

exposed by a window frame. Accordingly, claim 22 is submitted to be clearly patentable over Grossman in view of Foster et al for the additional limitation recited therein as well as being allowable with independent claim 1.

Claims 2, 4, 23 and 24 depend from claim 1 and were withdrawn from consideration by the Examiner. Since independent claim 1 is allowable, withdrawn claims 2, 4, 23 and 24 should now be allowable therewith.

Independent claim 28 recites "applying a layer of unifying material to at least one of an exterior surface of a shattered window pane or an interior surface of the shattered window pane opposite the exterior surface; adhesively bonding the layer of unifying material to the window pane to unite the shattered window pane and form a cohesive mass including the window pane and the layer of unifying material; and removing the cohesive mass from the window frame as one or more integral and unitary pieces." As discussed above in connection with independent claim 1, Hill does not teach or suggest applying a layer of unifying material to at least one of an exterior surface of the cracked windshield or an interior surface of the cracked windshield opposite the exterior surface. Rather, the teachings of Hill are limited to forcing a resin filler into a crack in the windshield without any teachings whatsoever of applying the resin filler to at least one of an exterior surface or an interior surface of the cracked windshield. There are also no teachings or suggestions whatsoever by Hill of adhesively bonding the resin filler to the windshield to unite the cracked windshield and form a cohesive mass. The resin is explicitly defined by Hill as a "filler," from which it follows that the function of the resin filler is to fill the crack without requiring that the filler be adhesively bonded to the windshield. There are no teachings or suggestions whatsoever by Hill of the resin filler

being bonded in any manner to the windshield and, since the resin filler can fill the crack due to the pressure of the resin filler injected into the crack, the windshield repair apparatus of Hill does not necessarily or inherently involve bonding the resin filler to the windshield. In the absence of any disclosure or suggestion by Hill of the resin filler being bonded to the windshield, Hill fails to provide any teachings or suggestions of the resin filler uniting the cracked windshield and forming a cohesive mass including the cracked windshield and the resin filler. Since the resin filler is required to do nothing more than fill the crack, removal of the repaired windshield of Hill does not inherently or necessarily involve removing a cohesive mass, including the windshield and the resin filler, from the frame as one or more integral and unitary pieces. Rather, no cohesive mass including the windshield and the resin filler is disclosed or suggested by Hill and, therefore, the step of removing recited in claim 28 is also not disclosed or suggested. The method recited in claim 28 can only be considered obvious over Hill by interpreting Hill beyond the limits of its disclosure and by applying impermissible hindsight made possible only from the teachings of the present invention. Accordingly, independent claim 28 is submitted to be clearly patentable over Hill and should be allowed along with dependent claims 29-32 and 35-39.

Independent claim 28 also cannot be considered obvious over Grossman in view of Foster et al. As discussed above in connection with independent claim 1, Grossman discloses mechanical fasteners for being disposed within a crack in a glass pane without applying a layer of unifying material to at least one of an exterior surface of the glass pane or an interior surface of the glass pane opposite the exterior surface and without adhesively bonding a layer of unifying material to the glass pane to unite the

glass pane and form a cohesive mass. The step of removing recited in claim 28 is not taught or suggested by Grossman since Grossman fails to disclose any ability of the mechanical fastener to maintain the glass pane as a cohesive mass during removal of the glass pane from its frame. Foster et al fails to disclose the step of applying as recited in claim 28 since its disclosure is limited to applying a protective layer to an undamaged glass sheet which does not involve applying a layer of unifying material to a shattered window pane as required by claim 28. In addition, Foster et al fails to disclose adhesively bonding the protective layer to the glass sheet much less adhesively bonding the protective layer to the glass sheet to unite a shattered glass sheet and form a cohesive mass. The step of removing recited in claim 28 is not disclosed by Foster et al since Foster et al does not contemplate removal of the glass sheet from any type of frame. In totality, Foster et al fails to disclose or suggest any capability of the protective layer to unite a shattered glass sheet and form a cohesive mass capable of being removed from a window frame as one or more integral and unitary pieces. It is indisputable, therefore, that Foster et al fails to rectify the foregoing deficiencies of Grossman. Moreover, there are no teachings or suggestions whatsoever in either Foster et al or Grossman to support substituting the protective layer of Foster et al for the mechanical fasteners disclosed by Grossman. The only way that Grossman and Foster et al can be combined to obtain the method recited in claim 28 is by improperly reaching beyond the disclosures of the references themselves and by improperly applying hindsight reconstruction. Accordingly, independent claim 28 is submitted to be clearly patentable over Grossman in view of Foster et al and should be allowed along with dependent claims 29-32 and 35-39.

Dependent claim 29 characterizes the step of applying as including "spraying the unifying material in fluidic form" and characterizes the step of bonding as "allowing the unifying material to dry." Hill discloses the resin filler injected into the crack via a plunger, which does not constitute spraying a unifying material in fluidic form. There is no disclosure or suggestion whatsoever by Hill of the resin filler bonding to the windshield much less bonding as accomplished by drying of the resin filler. It is thusly improper to consider claim 29 as being obvious over Hill, and claim 29 is submitted to be patentable for the additional limitations recited therein as well as being allowable with claim 28.

Dependent claims 30-32 relate to applying specific unifying materials to the window pane, and the specific unifying materials recited in claims 30-32 are not disclosed by Hill as discussed above in connection with dependent claims 7, 11 and 17. For the reasons discussed above in connection with claims 7, 11 and 17, claims 30-32 are thusly submitted to be clearly patentable over Hill for the additional limitations recited therein as well as being allowable with independent claim 28.

Dependent claims 33 and 34 were withdrawn from consideration by the Examiner but depend from allowable claim 28. Accordingly, claims 33 and 34 should also be allowable.

Dependent claim 35 is submitted to be patentable over Grossman in view of Foster et al for the reasons discussed above in connection with dependent claim 22.

Dependent claim 36 recites "prior to said step of removing, the step of attaching at least one grasping member to the cohesive mass." As pointed out above in connection with dependent claim 20, Hill fails to teach or suggest a cohesive mass

much less a grasping member attached to a cohesive mass. Also, there are no teachings or suggestions whatsoever by Hill of removing the repaired windshield while the repair apparatus is attached thereto. The only reason for attachment of the repair apparatus to the windshield is to execute filling of the crack, with the repair apparatus being removed after the crack is filled. Accordingly, dependent claim 36 is submitted to be clearly patentable over Hill for the additional limitations recited therein as well as being allowable with independent claim 28.

Dependent claim 37 recites "applying the unifying material in fluidic form, said step of bonding includes allowing the unifying material to cure and said step of attaching includes inserting a portion of the at least one grasping member into the unifying material prior to curing thereof such that the portion of the at least one grasping member is bonded to the unifying material when the unifying material has cured." As discussed above, Hill fails to disclose the resin filler bonding to the windshield much less bonding accomplished via curing of the resin filler. Hill also fails to disclose any structural component of the glass repair apparatus functioning as a grasping member and, in particular, fails to disclose inserting a portion of the glass repair apparatus into the resin filler prior to curing such that the portion of the glass repair apparatus is bonded to the resin filler when the resin filler has cured. In Hill, no portion of the glass repair apparatus is bonded to the resin filler. Accordingly, claim 37 is submitted to be clearly patentable over Hill for the additional limitations recited therein as well as being allowable with independent claim 28.

Hill is completely silent as to removal of the cracked windshield and fails to disclose removal of the cracked windshield by pulling the cracked windshield via a

grasping member as is required by dependent claim 38. Dependent claim 38 can only be considered obvious over Hill by expanding the teachings of Hill beyond its disclosure and by the use of impermissible hindsight made possible only with the teachings of the subject invention. Accordingly, claim 38 is submitted to be clearly patentable over Hill for the additional limitation recited therein as well as being allowable with independent claim 28.

Claim 39 recites the step of removing as "removing the cohesive mass as a single piece." As pointed out above, Hill does not disclose the resin filler forming a cohesive mass with the cracked windshield and also does not disclose removal of the cracked windshield. Accordingly, claim 39 is submitted to be clearly patentable over Hill for the additional limitations recited therein as well as being allowable with independent claim 28.

In addition to reciting the applying and adhesively bonding steps as recited in claim 28, independent claim 51 recites the step of "leaving the cohesive mass in place to stabilize the shattered window pane for a desired length of time." As discussed above in connection with independent claim 28, Hill fails to teach or suggest the steps of applying and adhesively bonding and does not teach or suggest the resin filler as forming a cohesive mass with the cracked windshield. Since Hill does not involve the formation of a cohesive mass, the step of leaving recited in claim 51 cannot be taught or suggested by Hill. Accordingly, independent claim 51 is submitted to be clearly patentable over Hill and should be allowed along with dependent claims 52-55.

Dependent claim 52 is submitted to be patentable over Hill for the reasons discussed above in connection with dependent claim 29.

Dependent claim 53 recites the step of leaving as "stabilizing the window pane by preventing fragments of the window pane from becoming loose," and dependent claim 54 recites the step of leaving as "stabilizing the window pane by preventing it from collapsing." Hill discloses repair of a crack by filling the crack with a resin filler and does not disclose the resin filler as being capable of either preventing fragments of the cracked windshield from becoming loose or of preventing the cracked windshield from collapsing. Accordingly, dependent claims 53 and 54 can only be considered obvious over Hill by expanding the teachings of Hill beyond its disclosure and by using impermissible hindsight. Claims 53 and 54 are thusly submitted to be patentable over Hill for the additional limitations recited therein as well as being allowable with independent claim 51.

Independent claim 56 recites " a window pane having an exterior surface and an interior surface; a layer of polymeric foam disposed on at least one of said exterior surface or said interior surface to provide protection to said window pane, said foam and said window pane forming a protected window pane; and at least one handle secured to said protected window pane by adhesion of said at least one handle with said foam, wherein said adhesion is provided by said foam." Sanford discloses a panel member 16 and a handle 34 secured to the panel member. The panel member 16 is disclosed by Sanford as being made from metal and plastic materials, preferably fiberglass (Col. 8, lines 17-21). Sanford does not teach or suggest the panel member 16 being made as a layer of polymeric foam. Sanford also does not teach or suggest the handle 34 being secured to the panel member 16 by adhesion of the handle with the material of the panel member much less adhesion provided by foam. Rather,

Sanford discloses the handle member 34 secured to the panel member 16 by abutment of the panel member with end portions 46 of the handle 34 when free ends 38 of the handle are inserted in apertures 36 through panel member 16. The handle 34 is not secured by adhesion much less adhesion provided by a foam material. Accordingly, independent claim 56 is submitted to be clearly patentable over Sanford and should be allowed along with dependent claims 57 and 59.

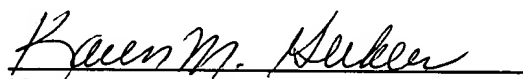
With respect to newly presented dependent claim 59, which recites the layer as being "bonded to said window pane by adhesion provided by said foam," Sanford does not disclose the panel member 16 bonded to a window pane much less being bonded to a window pane by adhesion provided by foam. Sanford actually teaches away from the subject matter of dependent claim 59 since the essence of Sanford is for the panel member 16 to be easily removable from the window. Accordingly, dependent claim 59 is submitted to be clearly patentable over Sanford for the additional feature recited therein as well as being allowable with claim 56.

Newly presented independent claim 60 recites "applying a layer of unifying material in fluidic form to at least one of an exterior surface of a shattered window pane or an interior surface of the shattered window pane opposite the exterior surface; solidifying the layer of unifying material to bond the layer of unifying material to the window pane to unite the shattered window pane and form a cohesive mass including the shattered window pane and the layer of unifying material; and removing the cohesive mass from the window frame as one or more integral and unitary pieces." None of the references cited by the Examiner, when considered singly or in any reasonable combination not using impermissible hindsight and not improperly

expanding the teachings of the references, discloses or suggests the steps recited in claim 60. Accordingly, independent claim 60 is submitted to be clearly patentable and should be allowed along with new dependent claims 61 and 62.

In light of the foregoing, all of the claims of the subject application are submitted to be in condition for allowance. Action in conformance therewith is courteously solicited. Should any issues in the subject application remain unresolved, the Examiner is encouraged to contact the undersigned attorney.

Respectfully submitted,


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I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on August 19, 2003.


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